WE CLAIM:

1.   A trainable transceiver system, comprising:

a trainable transceiver fixedly coupled to a vehicle interior element configured to receive a characteristic of an activation signal, to store the characteristic of the activation signal in a memory, and to retransmit the characteristic of the activation signal via an optical transmission; and

a portable transmitter configured to receive the characteristic of the activation signal from the trainable transceiver via the optical transmission, to store the activation signal characteristic, and to retransmit the stored activation signal characteristic.

2.   A system according to claim 1, wherein the characteristic comprises a data code configured to actuate a remote device.

3.   A system according to claim 2, wherein the data code is configured to actuate a garage door opener.

4.   A system according to claim 2, wherein the data code comprises a cryptographically encoded data code.

5.   A system according to claim 1, wherein the trainable transceiver comprises an optical transmitter configured to transmit the characteristic of the activation signal via an optical signal, wherein the portable transmitter comprises an optical receiver configured to receive the light signal.

6.   A system according to claim 5, wherein the optical transmitter is a light emitting diode.

7.   A system according to claim 1, wherein the portable transmitter comprises a housing configured as a keyfob.

8.   A system according to claim 1, wherein the trainable transceiver is configured to store the frequency and data code of the activation signal, wherein the portable transmitter is configured to receive the frequency and data code of the retransmitted characteristics of the activation signal.

9.   A system according to claim 1, wherein the trainable transceiver is further configured to receive remote keyless entry data from a remote keyless entry transmitter, to store the remote keyless entry data, and to retransmit the remote keyless entry data to the portable transmitter.

10.   A system according to claim 9, wherein the remote keyless entry transmitter comprises a housing configured as a keyfob.

35   11.   A system according to claim 1, wherein the trainable transceiver is configured to wirelessly receive an activation signal and to determine the characteristic to be stored based on the activation signal.

12.   A trainable transceiver system, comprising:

a trainable transceiver fixedly coupled to a vehicle interior element configured to

40   receive a characteristic of an activation signal, to store the characteristic of the activation signal in a memory, and to retransmit the characteristic of the activation signal via an RF signal; and

a portable transmitter configured to receive the characteristic of the activation signal from the trainable transceiver via the RF signal, to store the activation signal characteristic,

45   and to retransmit the stored activation signal characteristic.

13.   A system according to claim 12, wherein the portable transmitter comprises a fixed radio frequency receiver circuit configured to receive the retransmitted characteristics of the activation signal on a fixed radio frequency.

14.   A system according to claim 12, wherein the portable transmitter comprises a

50   broadband radio frequency receiver circuit configured to receive the retransmitted characteristics of the activation signal on any of a plurality of frequencies.

15.   A system according to claim 12, wherein the characteristic comprises a data code configured to actuate a remote device.

16.   A system according to claim 15, wherein the data code is configured to actuate a

55   garage door opener.

17.   A system according to claim 15, wherein the data code comprises a cryptographically encoded data code.

18.   A system according to claim 12, wherein the portable transmitter comprises a housing configured as a keyfob.

60   19.   A system according to claim 12, wherein the trainable transceiver is configured to store the frequency and data code of the activation signal, wherein the portable transmitter is configured to receive the frequency and data code of the retransmitted characteristics of the activation signal.

20.   A system according to claim 12, wherein the trainable transceiver is further

65   configured to receive remote keyless entry data from a remote keyless entry transmitter, to store the remote keyless entry data, and to retransmit the remote keyless entry data to the portable transmitter.

21.   A system according to claim 20, wherein the remote keyless entry transmitter comprises a housing configured as a keyfob.

70   22.   A system according to claim 12, wherein the trainable transceiver is configured to wirelessly receive an activation signal and to determine the characteristic to be stored based on the activation signal.

23.   A trainable transceiver, comprising:

a housing fixedly coupled to a vehicle interior element;

75   a control circuit coupled to the housing configured to receive a characteristic of an activation signal and to store the characteristic in a memory; and

an optical transmitter configured to transmit the characteristic via an optical signal.

24.   A trainable transceiver according to claim 23, further comprising a receiver circuit configured to wirelessly receive the characteristic of the activation signal.

80   25.   A trainable transceiver according to claim 24, further comprising an operator input device coupled to the control circuit, wherein the control circuit is configured to receive the characteristic of the activation signal from the operator input device.

26.   A trainable transceiver, comprising:

a housing fixedly coupled to a vehicle interior element;

85   a control circuit coupled to the housing configured to receive a characteristic of an activation signal and to store the characteristic in a memory; and

an RF transceiver configured to learn the characteristic of the activation signal and to transmit data representing the characteristic via an RF signal.

27.   A trainable keyfob, comprising:

90   a housing configured as a keyfob;

an optical receiver configured to receive an optical signal comprising a characteristic of a wireless activation signal;

a control circuit configured to store the characteristic in a memory; and

a wireless transmitter configured to retransmit the stored activation signal

95   characteristic.

28.   A trainable keyfob according to claim 27, wherein the control circuit is configured to receive characteristics of the wireless activation signal comprising the frequency and data code of the activation signal.

29.   A trainable keyfob, comprising:

100   a housing configured as a keyfob;

14

an RF receiver configured to receive an RF signal comprising a characteristic of a wireless activation signal;

a control circuit configured to store the characteristic in a memory; and

a wireless transmitter configured to retransmit the stored activation signal

105 characteristic.

30.   A trainable keyfob according to claim 29, wherein the RF receiver is a broadband receiver.

31.   A trainable keyfob according to claim 29, wherein the RF receiver is a narrowband receiver.